



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,535	12/26/2001	Koichi Sato	35.C16056	8293

5514 7590 10/05/2004

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
----------

SADULA, JENNIFER R

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/025,535	Applicant(s) SATO ET AL.	
	Examiner Jennifer R. Sadula	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1756

### DETAILED ACTION

The following is a complete response to the amendment and arguments filed 6/9/04. All objections to the claims and specification have been overcome. Only new claims 16-17 remain. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Gunjama et al., U.S. Patent No. 4,834,509 ("Gunjama").

Applicants claim a liquid crystal device comprising a pair of substrates provided with electrodes and a liquid crystal composition comprising at least one polymeric compound of formula 2 and an unspecified liquid crystal compound arranged between the substrates in a state of phase separation wherein the LC compound changes direction of orientation when a voltage is applied between the electrodes. Claim 17 specifies that the LC compound be a low molecular weight nematic liquid crystal. Preliminarily the Examiner notes that contrary to Applicant's assertion these claims are not duplication of previously submitted claims 12-13 as claim 12 was narrower than present claim 16.

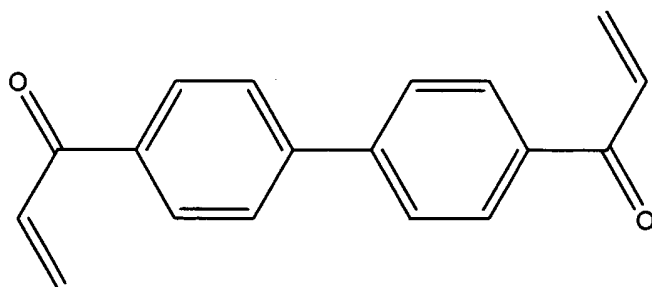
Gunjama teaches a liquid crystal optical device comprising a pair of substrates provided with electrodes and a layer containing a liquid crystal material sandwiched

Art Unit: 1756

between the layers (abstract). The liquid crystal material comprises a nematic liquid crystal and a photocurable vinyl compound resulting in a phase separation of the nematic LC and the cured product (abstract). Examiner notes that with regard to Applicant's formula 2 Gunjama teaches that the polymerizable material be a polyacrylate (6:11+) wherein many of the X units may be substituted with at least two rings- thereby satisfying formula 2.

Claims 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Doane et al., U.S. Patent No. 5,437,811 ("Doane").

Doane teaches liquid crystalline light modulating cells wherein a chiral nematic liquid crystalline material is held in a phase separation with a polymerizable material such that the polymerizable material is present in an amount to stabilize the focal conic and twisted planar structures when desirable (abstract). Figure 1 depicts the material when contained between two substrates (10,11) maintaining electrodes (13). The polymer content is listed as polymethacrylates (7:53-68) and it is understood from the examples that these polymerizable materials satisfy formula 2. For example, 4,4'-bisacryloyl biphenyl:



4,4'-bisacryloyl biphenyl

satisfies the equation when  $j=1$ ,  $e=1$  and G is a bond.

Art Unit: 1756

Claims 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Niiyama et al., U.S. Patent No. 5,858,268 ("Niiyama").

Niiyama teaches a liquid crystal optical display element wherein the composition sandwiched between the two substrates containing electrodes comprises an LC/polymer composite wherein the polymerizable material satisfies formula 1 (abstract). This formula 1 satisfies Applicants' general formula 2 when L is substituted with -OH. Niiyama teaches that the liquid crystal to be incorporated into the liquid crystal/polymer composite material may be a nematic liquid crystal or a smectic liquid crystal. In particular, the nematic liquid crystal is preferably used (12:8-13).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamaguchi, Onichi, Sage, Fujino and Sanada all anticipate the claimed invention however in an effort to avoid additional redundancy these references are merely cited.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 1756

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer R. Sadula whose telephone number is 571.272.1391. The examiner can normally be reached on Monday through Friday, 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571.272.1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRS  
29 September 2004

  
SHEAN C. WU  
PRIMARY EXAMINER